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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,810	10/30/2003	Jung-Fang Chang	CHAN3225/EM	6888

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EXAMINER

SANEI, HANA ASMAT

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/695,810

Applicant(s)

CHANG ET AL.

Examiner

Hana A. Sanei

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/25/05
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-20 is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/30/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

The request for reconsideration, filed on 11/25/05, has been entered and acknowledged by the Examiner.

Claims 1-20 are pending in the instant application

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

Claims 8 & 14 and any subsequent depending claims are objected to because of the following informalities: The discontinuous ordering of respective substrates is inconsistent with a consecutively ordered numbering system. For purposes of rejection, Examiner assumes that the missing numbered substrates are not present in the method of manufacturing. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 3-5, 7 are rejected under 35 U.S.C. 103(a) as being

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unpatentable over Leib et al (US 2004/0214380 A1) in view of Utsunomiya (US 814832 B2).

With respect to Claims 1 & 7, Leib teaches providing a first substrate (6, see at least Fig. 1A) having a plurality of conducting lines (3 & 5, connected) thereon; bonding a second substrate (19, Fig. 2A) on the plurality of conducting lines; thinning the first substrate (Fig. 2B); adhering a flexible third substrate (25, Fig. 2C, [0060]) made of plastic [0065]. It should be noted that Leib's Figs. 2A-2C are variant of the process steps illustrated with reference to Figs. 1D-1E. Hence a plausible subsequent order of processes proceeds as follows: 1A-1C – 2A-2C.

Leib lacks removing the second substrate. In the same field of endeavor, Utsunomiya teaches removing the second substrate (temporary transfer substrate 5, Fig. 1D-1E) in order to facilitate processing of the lower section of the device. It should be noted that Utsunomiya's intermediate step of providing a temporary transfer substrate following step as displayed in Fig. 1C, in which Utsunomiya's first substrate (31) is thin with some predetermined thickness, suffices the suitability of removing the second substrate. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to remove the second substrate, as disclosed by Utsunomiya, in the method for manufacturing of Leib in order to facilitate processing of the lower section of the device.

With respect to Claim 3, Leib teaches that the first substrate (6) is a glass substrate (Par [0021]).

With respect to Claim 4, Leib teaches that the thinning method in step (c) is polishing (grounding, [0055]).

With respect to Claim 5, Leib teaches the invention set forth above (see rejection in Claim 1 above). Leib lacks a thin film transistor (hereinafter referred to as TFT). In the same field of endeavor, Utsunomiya teaches a thin film transistor in order to ensure sufficient driving of the device. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add a TFT, as disclosed by Leib, in the method for manufacturing of Leib in order to ensure sufficient driving of the device.

2. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leib et al (US 2004/0214380 A1) in view of Utsunomiya (US 6814832 B2) in further view of Yamazaki et al (US 6429053 B1).

With respect to Claim 2, Leib-Utsunomiya teaches the invention set forth above (see rejection in Claim 1 above) and further teaches a step (f) of forming a plurality of conducting layers (9, Fig. 1A-1C) on the plurality of conducting lines (3 & 5, connected). Leib-Utsunomiya lacks a flexible fourth. In the same field of endeavor, Yamazaki teaches adhering a flexible fourth substrate (302, see at least Figs. 2A-2C, Fig. 3, Col. 5, lines 12-13) on the plurality of conducting layers (305) after step (e) (initial formation of lower substrate, Fig. 1A-Fig. 1E) in order to in order to decrease the overall weight of the device (Col. 1, lines 47-53).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add a flexible fourth, as disclosed by Yamazaki, in the

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method for manufacturing of Leib-Utsunomiya in order to decrease the overall weight of the device.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leib et al (US 2004/0214380 A1) in view of Utsunomiya (US 6814832 B2) in further view of Young (US 2002/0139981 A1).

With respect to Claim 6, Leib-Utsunomiya is silent regarding the thickness range of the thinned first substrate. In the same field of endeavor, Young teaches that the first substrate is thinned to have a thickness ranging from 30 to 100.mu.m (Page 4, Paragraph [0042]) in order to allow the matrix circuit to be electrically connected to a flexible third substrate, which would be added in a following step. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the thickness of a first substrate, as disclosed by Young, in the panel of Leib-Utsunomiya. Motivation to combine would be to allow the matrix circuit to be electrically connected to a flexible third substrate, in which the flexible third substrate would be added in a following step.

4. Claims 8-10, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leib et al (US 2004/0214380 A1) in view of Yamazaki et al (US 6429053 B1).

With respect to Claims 8 & 13, Leib teaches providing a first substrate (6, see at least Fig. 1A) having a plurality of conducting lines (3 & 5, connected) thereon; forming a plurality of conducting lines (9, Figs. 1A-1C); adhering a third substrate (19, Fig. 2A) on the plurality of conducting lines; thinning the first

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substrate (Fig. 2B); and bonding a flexible fourth substrate (25, Fig. 2C, [0060]) made of plastic [0065]) on the thinned first substrate.

Leib lacks the third substrate being flexible. In the same field of endeavor, Yamazaki teaches a third substrate that is flexible (302, see at least Figs. 2A-2C, Fig. 3, Col. 5, lines 12-13) in order to in order to decrease the overall weight of the device (Col.1, lines 47-53). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to, as disclosed by Leib, in the method for manufacturing of Leib in order to decrease the overall weight of the device.

With respect to Claim 9, Leib teaches that the first substrate (6) is a glass substrate (Par [0021]).

With respect to Claim 10, Leib teaches that the thinning method in step (c) is polishing (grounding, [0055]).

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leib et al (US 2004/0214380 A1) in view of Yamazaki et al (US 6429053 B1) in further view of Utsunomiya (US 6814832 B2).

With respect to Claim 11, Leib-Yamazaki teaches the invention set forth above (see rejection in Claim 1 above). Leib-Yamazaki lacks a thin film transistor (hereinafter referred to as TFT). In the same field of endeavor, Utsunomiya teaches a thin film transistor in order to ensure sufficient driving of the device. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add a TFT, as disclosed by Leib-Yamazaki, in

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the method for manufacturing of Leib in order to ensure sufficient driving of the device.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leib et al (US 2004/0214380 A1) in view of Yamazaki et al (US 6429053 B1) in further view of Young (US 2002/0139981 A1).

With respect to Claim 12, Leib-Yamazaki is silent regarding the thickness range of the thinned first substrate. In the same field of endeavor, Young teaches that the first substrate is thinned to have a thickness ranging from 30 to 100.mu.m (Page 4, Paragraph [0042]) in order to allow the matrix circuit to be electrically connected to a flexible third substrate, which would be added in a following step. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the thickness of a first substrate, as disclosed by Young, in the panel of Leib-Yamazaki. Motivation to combine would be to allow the matrix circuit to be electrically connected to a flexible third substrate, in which the flexible third substrate would be added in a following step.

Allowable Subject Matter

Claims 14-20 are allowed over the prior art of record.

The following is an examiner's statement of reason for allowance: The prior art of record neither shows nor suggests a method for manufacturing a flexible panel comprising all of the limitation set forth in Claim 14, particularly comprising the limitations of removing a fifth substrate together with the other cited limitations.

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Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

The examiner notes that the indication of allowable subject matter for Claim 8 as well as any subsequent depending claims is withdrawn in view of a newly discovered prior art.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hana A. Sanei whose telephone number is (571) 272-8654. The examiner can normally be reached on Monday- Friday, 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner
Hana A. Sanei

11/23/06


VIP PATEL
PRIMARY EXAMINER